

### REMARKS/ARGUMENTS

Claims 1-62 are currently pending in this application. By this Amendment, claims 1, 12, 25, 26 and 31-36 have been amended, and new claims 53-62 have been added. Support for these claims may be found at least in paragraphs [0029] and [0031] of the Specification. No new matter is added. Applicants respectfully request reconsideration of this application based on the above amendments and the following remarks.

#### *Claim Rejections – 35 USC § 103*

The Office Action rejects claims 1-25, 27-32, 37-45 and 47-48 under 35 U.S.C. §103(a) as being unpatentable over Haas (US 6,304,556), in view of Belcea (US 2002/0080750), and further in view of Aihara (US 2002/0082035); and rejects claims 26, 33-36, 46 and 49-52 under 35 U.S.C. § 103(a) as being unpatentable over Haas, in view of Juitt (US 7,042,988), in view of Belcea, and further in view of Aihara. To the extent these rejections remain applicable to the claims, as amended, Applicants respectfully traverse these rejections, as follows.

Claim 1 recites, *inter alia*, “wherein the ad hoc network comprises a plurality of clusters, *each of the clusters comprising at least two piconets and at least one gateway terminal*; wherein the gateway terminal is configured to form a communications link between at least two of the plurality of clusters; and wherein each of the piconets comprises at least one intra-cluster bridge terminal, a master terminal, and a member terminal slaved to the master terminal, wherein the intra-cluster bridge terminal is a member of the two piconets and is configured to form a communications link between the two piconets” (emphasis added). Independent claims 12, 25-26 and 31-36 recite similar features.

Applicants respectfully submit that Haas, Belcea, Aihara and Juitt, either individually or in combination, fail to disclose or suggest the aforementioned features, as recited in independent claims 1, 12, 25-26 and 31-36.

Haas discloses an ad-hoc network 20 including four clusters 24, 26, 28, 30, where each of the clusters includes nodes 22. The clusters may be established within different management zones 62, 64, 66, 68. Each of the management zones may include a respective mobility reporting center (MRC) 54, 56, 58, 60 that gathers information within its management zone and is used to establish a “spine route” linking two nodes via the respective zone’s MRCs and other

intermediate nodes. *See, e.g.*, Haas at col. 8, lines 37 to col. 9, line 63, with reference to Figs. 3 and 4.

Independent claims 1, 12, 25, 26 and 31-36 specifically recite that each of the clusters comprise at least two piconets, and that each of the piconets comprise at least one intra-cluster bridge terminal. The claims also recite that each of the clusters comprise at least one gateway terminal. The claimed intra-cluster bridge terminals are different from the claimed gateway terminal. The gateway is configured to form communications links between clusters, whereas the intra-cluster bridge terminals are configured to form communications links between piconets. The ad-hoc network of Haas does not include two different types of terminals (e.g., “gateway terminal” and “intra-cluster bridge terminal”) where one type provides for communication between clusters and the other type provides for communication between piconets. The ad-hoc network of Haas merely includes MRCs 54, 56, 58, 60 that are used to link various nodes between the clusters. These MRCs are not intra-cluster bridge terminals. According to the disclosure of Haas, the clusters 24, 26, 28, 30 do not include any piconets. Because the clusters of Haas lack any piconets, the clusters do not include intra-cluster bridge terminals that are configured to form communications links between piconets.

As such, Haas fails to disclose or suggest an ad hoc network comprising a plurality of clusters, where each of the clusters comprise at least two piconets and at least one gateway terminal, where the gateway terminal is configured to form a communications link between at least two of the plurality of clusters, and where each of the piconets comprises at least one intra-cluster bridge terminal configured to form a communications link between the two piconets, as recited in independent claims 1, 12, 25, 26 and 31-36.

Aihara is similarly deficient. Aihara discloses a system for optimizing cluster configurations. As shown in Fig. 1 of Aihara, a cluster may contain nodes 1-5, of which node 5 may be a cluster head, and nodes 1-4 may be cluster members. The cluster in Fig. 1, however, is not shown to include any piconets. Because the cluster of Aihara lacks any piconets, the cluster does not include intra-cluster bridge terminals that are configured to form a communications link between two different piconets. Moreover, Aihara fails to disclose that the cluster includes any gateway terminals configured to form a communications link between clusters. As such, Aihara fails to disclose or suggest an ad hoc network comprising a plurality of clusters, where each of the clusters comprise at least two piconets and at least one gateway terminal, where the gateway

terminal is configured to form a communications link between at least two of the plurality of clusters, and where each of the piconets comprises at least one intra-cluster bridge terminal configured to form a communications link between the two piconets, as recited in independent claims 1, 12, 25, 26 and 31-36.

Secondary references Juitt and Belcea, either individually or in combination with Haas and Aihara, also fail to disclose the aforementioned features recited in independent claims 1, 12, 25, 26 and 31-36, and thus, fail to make up for the deficiencies of Haas and Aihara.

In accordance with the above remarks, Applicants respectfully submit that any proposed modification of Haas based on the teachings of any one or any combination of Belcea, Aihara, or Juitt fails to disclose or suggest at least the features recited in independent claims 1, 12, 25, 26 and 31-36.

Accordingly, Applicants submit that claims 1, 12, 25, 26, and 31-36 define patentable subject matter. Claims 2-11, 13-24, 27-30, and 37-52 depend from one of independent claims 1, 12, 25-26, and 31-36, respectively, and therefore, also define patentable subject matter for at least the same reasons, as well as for the additional features recited therein.

Therefore, based on the foregoing, the Applicants respectfully request that the Examiner withdraw the § 103(a) rejections.

#### *New Claims 53-62*

Applicants have added new claims 53-62 to recite subject matter to which they are entitled. As noted above, these new claims are fully supported throughout the Specification.

Additionally, claims 53-62 are allowable, as there is no combination of the cited references that discloses or suggests the subject matter recited by these claims.

In particular, claims 53-62 respectively depend from one of independent claims 1, 12, 25, 26 and 31-36, which are believed to be patentable over any combination of the cited references, as discussed above. Thus, for at least the same reasons, claims 53-62 are also non-obvious and patentably distinguishable over the cited prior art references.

Further, claims 53-62 recite subject matter not disclosed or suggested by any combination of the cited references. For example, there is no combination of the cited references that discloses or suggests an apparatus, method, or system wherein the gateway terminal of one of the plurality of clusters is configured to form a direct communications link with another gateway

terminal of a different one of the plurality of clusters, and wherein the intra-cluster bridge terminal of one of the two piconets is configured to form a direct communications link with another intra-cluster bridge terminal of a different one of the two piconets, as recited in claims 53-62.

Therefore, Applicants respectfully request that the Examiner allow claims 53-62.

### CONCLUSION

In light of the above, Applicants submit that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Dated: 05/03/2010

Respectfully Submitted,

By: 

Florin Corie, Reg. No. 46,244  
Direct: 858.658.3663

QUALCOMM Incorporated  
Attn: Patent Department  
5775 Morehouse Drive  
San Diego, California 92121-1714  
Facsimile: (858) 658-2502